



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,385	08/09/2007	Moshe Malik	37705	7857

67801 7590 03/15/2012
MARTIN D. MOYNIHAN d/b/a PRISI, INC.
P.O. BOX 16446
ARLINGTON, VA 22215

EXAMINER

MCGRAW, TREVOR EDWIN

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

03/15/2012

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/599,385

Applicant(s)

MALIK ET AL.

Examiner

TREVOR E. MCGRAW

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-6, 9-18, 23, 24, 40, 42 and 58-65 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) 61 is/are allowed.
- 7) ☒ Claim(s) 1-6, 9-18, 23, 24, 40, 42, 58-60 and 62 is/are rejected.
- 8) ☒ Claim(s) 63-65 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-SB 08)
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :11/23/10;2/1/11;4/27/11;9/6/11;11/23/11.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/22/2010 has been entered.

Examiner's Comment

Examiner acknowledges the cancellation of Claims 7, 8, 12, 13, 19-22, 25-39, 41, 43-57.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9, 10, 14-18, 23, 24, 42, 58, 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wacker et al (US 5,983,079) in view of Vine-Lott (US 5,102,228).

In regard to Claims 1, 59, 60 and 62, Wacker et al teach a chemical mixing device (30) having a flow generator (20,21) operative to provide at least two streams of chemicals (chemical of "12" and "13"), and a mixing chamber (83,89; see Figure below), including at least two inlets (58a, 58c) adapted to receive the at least two streams of chemicals (see column 5, lines 36-41) and an outlet (outlet of "96") through which a mixture of the streams of chemicals is ejected from the mixing device (30), wherein the mixing chamber (83,89; see Figure below) has an open state (see open state of "83", "89" in Figure 7) in which the chemicals are mixed and a closed state (see closed state of "83", "89" in Figures 8 and 9) in which the volume of the mixing chamber (83, 89; see Figure below) is less than a fifth of the open state volume (as shown in Figures 7 and 8 of Wacker et al the volume of the mixing chamber can be zero between the walls of 98, which is less than a fifth of the open state volume of the mixing chamber between walls of 98).

Although Wacker et al as described above substantially teaches the present invention, it fails to teach where the mixing chamber remains in the closed state when the flow generator does not operate.

However, Vine-Lott teaches a mixing chamber (23) the remains in the closed state when the flow generator (26) does not operate (see column 2, lines 43-68).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the present invention was made to have provided the device of Wacker et al with the mixing chamber and flow generator taught by Vine-Lott in order to control the flow of air and foam solution mixture through the flow generator chamber.

With further regard to Claim 60, the combined device of Wacker et al in view of Vine-Lott teach where a rigid structure continuously applies a closing force to the mixing chamber (see Figure 8 where the pressure in 93 "continuously" applies a closing force to the mixing chamber).

In regard to Claims 2-4, the combined device of Wacker et al in view of Vine-Lott also teach where the mixing chamber (83, 89 of Wacker et al; see Figure below) has a substantially zero volume in the closed state (see closed state of "83" and "89" in Figure 8 of Wacker et al) where the mixing chamber (83, 89 of Wacker et al; see Figure below) has walls (98 of Wacker et al) that are biased in a closed state in which the walls (98 of Wacker et al) are pressed against each other (see Figure 8 of Wacker et al that shows "98" in biased against one another in the closed position) and the walls (98 of Wacker et al) of the mixing chamber (98 of Wacker et al) are biased in the closed state by a pressure greater than required to keep the mixing chamber in the closed state (See Figure 8 of Wacker et al where the pressure required to keep mixing chamber closed at "98" is greater than the pressure to keep the mixing chamber in the closed state; see Figure 9 of Wacker et al where mixing chamber is closed via "98" but not flat as shown in Figure 8 of Wacker et al.).

In regard to Claims 5, 6 and 58, the combined device of Wacker et al in view of Vine-Lott teach where the mixing chamber has a volume capable of being smaller than a cubic millimeter in the closed state and a volume of less than 20 cubic millimeters in the open state and the mixing chamber of Wacker et al is capable of having a volume of at least 3 cubic millimeters in the open state (see Figures 7 and 8 of Wacker et al where volume is small between "98" in both figures; Wacker et al disclose that there is a volume define within 98; see column 8, lines 13-49).

In regard to Claims 9, 10, 15 and 16, the combined device of Wacker et al in view of Vine-Lott further teach where the mixing chamber comprises a flexible material ("98" of Wacker et al is made of a flexible material) and where the mixing chamber comprises a compressible material ("98" of Wacker et al is also compressible) and the flow generator (20, 21 of Wacker et al) and a nozzle (96 of Wacker et al) containing the mixing chamber are connected to each other and are adapted to be replaced together and the nozzle containing the mixing chamber and containers from which the flow generator extract the chemicals are adapted to be replaced together (parts of Wacker et al are able to be adapted to be replaced as desired to include together as desired by a user).

In regard to Claim 14, the combined device of Wacker et al in view of Vine-Lott teach where a pressure unit which controllably applies a closing pressure on the mixing chamber, when the mixing chamber is in the closed state, but does not apply the closing pressure when the mixing chamber is to be in the open state (see column 7, lines 58-62 of Wacker et al).

In regard to Claims 17, 18, 23 and 24, the combined device of Wacker et al in view of Vine-Lott additionally teach where at least two channels (channels of "58a" and "58c" of Wacker et al) which lead the chemicals to the mixing chamber (83, 89 of Wacker et al; see Figure below), where the channels (channels of "58a" and "58c" of Wacker et al; see Figure 6 of Wacker et al where cross-section decreases in "70a") have a decreasing cross-section as they approach the mixing chamber (83, 89 of Wacker et al; see Figure below) and the at least two channels (channels of "58a" and "58c" of Wacker et al) which lead the chemicals to the mixing chamber (83, 89 of Wacker et al; see Figure below), where at least a portion of the channels is held in a closed state when the flow generator does not operate (58a and 58c of Wacker et al can be in a closed state when "20" and "21" are not operating) where the walls (98 of Wacker et al) of the mixing chamber (83, 89 of Wacker et al; see Figure below) are pressed against each other in the closed state ("98" closed in Figure 8 of Wacker et al) and the walls (98 of Wacker et al) of the mixing chamber (83, 89 of Wacker et al; see Figure below) are pressed against each other in the closed state, by an external force (external force applied to "98" via "100" and "102" of Wacker et al.).

Claims 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wacker et al (US 5,983,079) in view of Vine-Lott (US 5,102,228) and further in view of Trombley, III et al (US 7,060,049).

In regard to Claim 40, the combined device of Wacker et al in view of Vine-Lott teach a flow generator (20, 21, 24 of Wacker et al) operative to provide at least two streams of chemicals and a mixing chamber (53, 83, 89 of Wacker et al) including at

least two inlets (inlets of "58a" and "58c" of Wacker et al) adapted to receive the at least two streams of chemicals and an outlet (outlet of "96" of Wacker et al) through which a mixture of the streams of chemicals is ejected and a flow regulator (valve rods of 58a and 58c of Wacker et al) are prevent flow into the mixing chamber unless the chemical streams from the flow generator (20, 21, 24 of Wacker et al) have a pressure above a threshold of at least 2 bar (pumps of Wacker et al can operate at high pressure and can be set by a user with the valves to account for intermittent dispensing of two fluids where the fluids operate at different pressures to coincide with volume portion; see column 2, lines 11-23 of Wacker et al;).

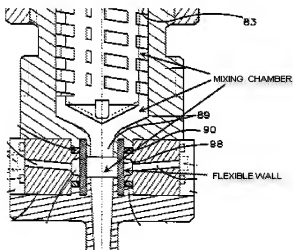
Although the combined device of Wacker et al in view of Vine-Lott as described above substantially teaches the present invention, it fails to teach where the flow regulator comprises portions of flexible channels leading chemicals to the mixing chamber which are pressed into a closed position.

However, Trombley, III et al teach having a flow regulator (121 and associated flexible tube 26) that comprises portions of flexible channels (see flexible tube 26) leading chemicals to a mixing region that are pressed into a closed position (see Figure 10).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the present invention was made to have substituted the flow regulator of the combined device of Wacker et al in view of Vine-Lott with the flow regulator taught by Trombley, III et al in order to provide for an alternative delivery system for dispensing a multi-component medium (see column 3, lines 55-59 of Trombley, III et al).

In regard to Claim 42, the combined device of Wacker et al in view of Vine-Lott and further in view of Trombley, III et al teach where the flow regulator (121 and flexible tubing 26 of Trombley, III et al or alternatively the valve rods of 58a and 58c of Wacker et al) prevent flow into the mixing chamber unless the chemical streams from the flow generator (20, 21, 24 of Wacker et al) have a pressure above a threshold of at least 4 bar.

FIGURE



Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wacker et al (US 5,938,079) in view of Vine-Lott (US 5,102,228) and further in view of Chimura (US 3,451,347).

In regard to Claim 11, Wacker et al in view of Vine-Lott as described above substantially teach the present invention with the exception of where the mixing chamber material has a hardness of less than 60 Shore A.

However, Chimura teaches having a chamber material that has a hardness of 30 to 40 Shore A.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the present invention was made to have substituted the mixing chamber material of Wacker et al in view of Vine-Lott ("98" material of Wacker et al) with the chamber material of Chimura in order to provide for a soft chemical-resisting material.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6, 9-18, 23, 24, 40, 42, 58-65 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23, 25 and 30, and 36-40 of copending Application No. 10/599,376. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite common subject matter to at least a mixing chamber, a flow generator, the volume of the mixing chamber has a substantially zero volume in the closed state, the mixing chamber being defined by flexible walls, the flow generator comprises a pump that can be a gear pump, a casing or package, and a flow regulator or pump mechanism.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

Claims 62-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Rejection under 35 USC § 102

Examiner withdraws the rejection of Claims 1-6, 9, 10, 14-18, 23, 24, 35, 36, 38-40, 42-45 and 47-53 in view of Applicant's amendments to Claim 1.

Rejection under 35 USC § 103

Applicant's arguments with respect to claims 11, 31, 32 and 37 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ogle (US 3,397,694) drawn to a mixing and dispensing device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trevor McGraw whose telephone number is (571) 272-7375. The examiner can normally be reached on Monday-Friday (2nd & 4th Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/T. E. M./
Examiner, Art Unit 3752

03/10/2012